

## **REMARKS**

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and the following commentary.

### **I. Status of the Claims**

Claims 1, 4, 6, and 9 have been revised for better clarity and to delete certain recitations. Claims 2, 3, 5, 7, 8, and 10 were cancelled previously. Because no new matter is introduced, Applicants respectfully request entry of this amendment. Upon entry, claims 1, 4, 6, 9 and 11-15 will be pending, with claims 11-13 withdrawn from consideration.

### **II. Claim Objection**

The examiner objected to claim 1 for reciting “(i)” and “(ii)” at lines 13 and 16, respectively. The claim has been amended in keeping with the examiner’s suggestion.

### **III. Rejection of Claims under 35 U.S.C. §112, first paragraph**

Examiner Kumar maintained rejection of claims 4 and 9 for alleged lack of enablement and written description. The examiner further rejected claims 1, 4, 6, 9 and 14-15 for allegedly introducing new matter by the recitation of “subjecting regenerants to a selection for said characteristics.”

Without acquiescing to the stated rationale of the rejections, applicants choose to advance prosecution by deleting the recitation of homology in claims 4 and 9 and by deleting the recitation of the method step at issue in claim 1. Accordingly, applicants respectfully request withdrawal of the rejection.

#### IV. Rejection of Claims under 35 U.S.C. §102(b)

The examiner rejected claims 1, 4, 6, 9, and 14-15 for alleged anticipation by Kasuga *et al.*, *Nature Biotechnology* 17: 287-91 (1999). Applicants respectfully traverse the rejection.

In advancing the rejection, the examiner asserts that the recited characteristics of the claimed plant “are inherent properties of SEQ ID NO:2 expression in the transformed plant” (Office Action, page 9, last paragraph). Applicants note, however, that the characteristics of improved propagation efficiency and the improved rooting efficiency are properties of the scions of such a transformed plant.

This point about scions, *per se*, has a bearing on the relationship of applicants’ claimed invention to the prior art. That this is the case is evident from the examiner’s citation of Turnbull *et al.*, *The Plant Journal* 32: 255-62 (2002), apparently to illustrate the state of the art. According to the examiner, Turnbull teaches that “*Arabidopsis* is an important model plant system where … grafting and scions have been extensively used to study long distance signaling mechanisms” (*id.*, page 10, lines 1-3). Yet, contrary to the examiner’s contention, Turnbull actually describes only grafting and *not* scions of *Arabidopsis*.

As Examiner Kumar will appreciate, a graft is a piece of excised plant material that is surgically transplanted or implanted into a bodily part of a plant. No rooting of the graft is required for its survival on the recipient plant. Instead, the excised plant material obtains water and nutrition from the recipient plant.

In sharp contrast, rooting is required for a scion as presently recited because it is planted in cultured soil directly. See specification, for example, at page 40, line 19. Since no nutrition is supplied to the scion planted in the soil, the dynamics of water supply and nutrition, *inter alia*, differ dramatically between a scion planted in the soil and a graft, à la Turnbull, that is transplanted to a host.

To distinguish the claimed invention further from the cited art, therefore, applicants have amend the claims to recite “a scion for rooting.” With reference to this aspect of the claimed invention, the skilled person could not have recognized from Kasuga, even read in light of Turnbull, that improved rooting efficiency of a scion, not to mention improved propagation efficiency, as an inherent (*i.e.*, necessary) feature of any methodology taught, as such, by the cited art.

Furthermore, no reference of record implicates “prolonged vase life of cut flowers” as an inherent outcome of any prior-art method. To underscore this point, applicants have carried out an experiment to show that *Arabidopsis* is not a suitable model for generating results that pertain to vase life of cut flowers.

A plant of *Arabidopsis* was induced to bolt. As shown in the accompanying “Figure 1,” left panel, a cane of the plant with flowers were cut and put in water at Day 0. A scion with flowers was put in water for a vase life test. At Day 0, the petals of the flowers fell off within a few hours of cutting and the plant started developing siliques (Figure 1, middle panel). At Day 10, the flowers completely developed into siliques with seeds (Figure 1, right panel).

From these results, it is apparent that *Arabidopsis*, due to the short life of its flowers, is unsuitable for evaluating the vase life of cut flowers. The unsuitability of the *Arabidopsis* model highlighted by applicants’ Example 4, which describes evaluation of vase life over 22 days.

In view of the foregoing, applicants respectfully submit that the cited art is ineffectual as an inherent anticipation of their claimed method. Withdrawal of the rejection is respectfully requested, therefore.

**V. Rejection of Claims under 35 U.S.C. §103(a)**

The examiner maintains the rejection of claim 15 for alleged obviousness over Kasuga in view of Dalton *et al.*, *Plant Science* 132: 31-43, 1998 (“Dalton”). Applicants respectfully traverse the rejection.

Dalton is cited for the alleged teaching of silicon carbide whisker-mediated plant transformation but fails to cure the deficiencies of Kasuga, detailed in the previous section. Since the cited combination thus cannot render claim 15 obvious, within the meaning of Section 103, reconsideration and withdrawal of this rejection are warranted.

**CONCLUSION**

Applicants submit that this application is in condition for allowance, and they request an early indication to this effect. Examiner Kumar is invited to contact the undersigned directly, should he feel that any issue warrants further consideration.

The Commissioner is hereby authorized to charge any additional fees, which may be required under 37 C.F.R. §§ 1.16-1.17, and to credit any overpayment to Deposit Account No. 19-0741. Should no proper payment accompany this response, then the Commissioner is authorized to charge the unpaid amount to the same deposit account. If an extension is needed for timely acceptance of submitted papers, then applicants hereby petition for such extension under 37 C.F.R. § 1.136 and authorize payment of the relevant fee(s) from the deposit account.

Respectfully submitted,

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